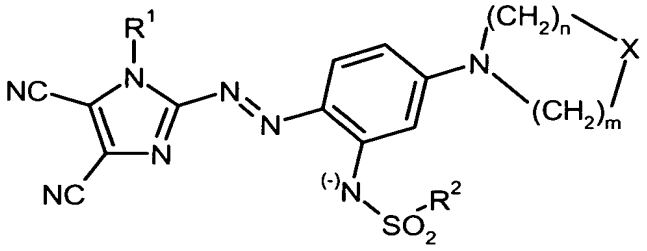
Claims

1. Metal complexes which have at least one ligand of the formula I



(I),

where

R^1 is hydrogen, substituted or unsubstituted C_1-C_6-alkyl or substituted or unsubstituted C_7-C_{12}-aralkyl,

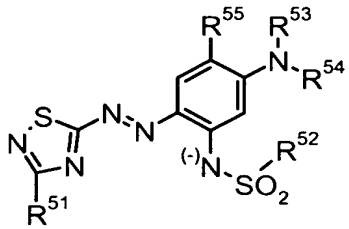
R^2 is substituted or unsubstituted C_1-C_6-alkyl,

X is O, NH, NR^3, CH_2 or a direct bond,

R^3 is substituted or unsubstituted C_1-C_6-alkyl and

m and n are each, independently of one another, 1, 2 or 3,

and metal complexes which have at least one of the ligands of the formula (LI)



(LI),

where

R^{51} is substituted or unsubstituted C_6-C_{10}-aryl, in particular phenyl, a substituted or unsubstituted 5- or 6-membered heterocyclic radical, in particular pyridyl, C_1-C_6-alkylthio, C_7-C_{10}-aralkylthio, substituted or unsubstituted C_6-C_{10}-arylthio, in particular phenylthio, C_1-C_6-alkylsulphonyl, C_7-C_{10}-aralkylsulphonyl or substituted or unsubstituted C_6-C_{10}-arylsulphonyl, in particular phenylsulphonyl,

R^{52} is substituted or unsubstituted C_1-C_6-alkyl,

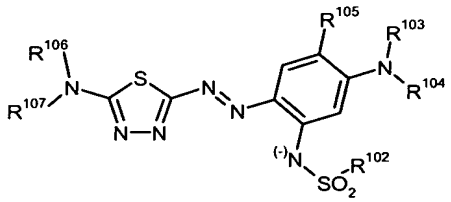
R^{53} and R^{54} are each, independently of one another, substituted or unsubstituted C_1-C_6-alkyl, substituted or unsubstituted C_7-C_{10}-aralkyl or substituted or unsubstituted C_6-C_{10}-aryl or

$NR^{53}R^{54}$ is pyrrolidino, piperidino, morpholino, piperazino or N-C_1-C_6-alkyl-piperidino,

R^{55} is hydrogen, methyl or methoxy or

R^{53};R^{55} together form a -$(CH_2)_2$-, -$(CH_2)_3$- or -$(CH_2)_2$-O- bridge,

and metal complexes which have at least one ligand of the formula (CI)



(CI)

where

R^{102} is substituted or unsubstituted C_1-C_6-alkyl, in particular C_1-C_6-alkyl or perfluoro-C_1-C_6-alkyl,

R^{103}, R^{104}, R^{106} and R^{107} are each, independently of one another, substituted or unsubstituted C_1-C_6-alkyl, substituted or unsubstituted C_7-C_{10}-aralkyl or substituted or unsubstituted C_6-C_{10}-aryl or

$NR^{103}R^{104}$ and $NR^{106}R^{107}$ are each, independently of one another, pyrrolidino, piperidino, morpholino, piperazino or N-C_1-C_6-alkylpiperidino,

R^{105} is hydrogen, methyl or methoxy or

R^{103};R^{105} together form a -$(CH_2)_2$-, -$(CH_2)_3$- or -$(CH_2)_2$-O- bridge.

2. Metal complexes according to Claim 1, characterized in that they contain two identical or different ligands of the formula (I), (LI) or (CI).

3. Metal complexes according to Claim 1, characterized in that they have the formula (Ia)

$$\left[(I)\right]_2^- \quad M^{2+} \qquad \text{(Ia)}$$

where the two ligands of the formula (I) are each, independently of one another, as defined in Claim 1 and

M is a metal, or

have the formula (LIa)

$$\left[(LI)\right]_2^- \quad M^{2+} \qquad \text{(LIa)}$$

where the two ligands are each, independently of one another, as defined in Claim 1 and

M is a metal, or

have the formula (CIa)

$$\left[(CI)\right]_2^- \quad M^{2+} \qquad \text{(CIa)}$$

where the two ligands of the formula (LI) are each, independently of one another, as defined in Claim 1 and

M is a metal.

4. Metal complexes according to Claim 1, characterized in that they have the formula (Ia)

$$\left[(I)\right]_2^- \quad M^{2+} \qquad \text{(Ia)}$$

where the two ligands of the formula (I) are each, independently of one another, as defined in Claim 1 and

M is a metal.

5. Metal complexes according to Claim 1, characterized in that the metal is a divalent metal, transition metal or rare earth, in particular Mg, Ca, Sr, Ba, Cu, Ni, Co, Fe, Zn, Pd, Pt, Ru, Rh, Os, Sm.

6. Metal complexes according to Claim 1, characterized in that the metal is Pd, Fe, Zn, Cu, Ni or Co.

7. Metal complexes according to at least one of Claims 1 to 6, characterized in that, in the formula (I)

R^1 is methyl, ethyl, propyl, butyl, cyanoethyl, methoxyethyl or benzyl,

R^2 is methyl, ethyl, propyl, butyl, difluoromethyl, 3,3-difluoroethyl, 3,3,3-trifluoroethyl, trifluoromethyl, pentafluoroethyl, heptafluoropropyl or perfluorobutyl,

X is O, CH_2 or a direct bond,

m and n are each, independently of one another, 1 or 2 and

M is Pd, Fe, Zn, Cu, Ni or Co,

or complexes in which, in the formula (LI)

R^{51} is phenyl, pyridyl, methylthio, ethylthio, propylthio, benzylthio, methylsulphonyl, benzylsulphonyl or phenylsulphonyl,

R^{52} is methyl, ethyl, propyl, butyl, difluoromethyl, 3,3-difluoroethyl, 3,3,3-trifluoroethyl, trifluoromethyl, pentafluoroethyl, heptafluoropropyl or perfluorobutyl,

R^{53} and R^{54} are each, independently of one another, methyl, ethyl, propyl, butyl, cyanoethyl, chloroethyl, methoxyethyl, benzyl, phenethyl or phenyl or

$NR^{53}R^{54}$ is pyrrolidino, piperidino or morpholino,

R^{55} is hydrogen and

M is Pd, Fe, Zn, Cu, Ni or Co,

where the propyl or butyl radicals may also be branched,

or complexes in which, in the formula (CI)

R^{106} and R^{107} are each, independently of one another, methyl, ethyl, propyl, butyl, cyanoethyl, chloroethyl, methoxyethyl, benzyl, phenethyl or phenyl or

$NR^{106}R^{107}$ is pyrrolidino, piperidino or morpholino,

R^{102} is methyl, ethyl, propyl, butyl, difluoromethyl, 3,3-difluoroethyl, 3,3,3-trifluoroethyl, trifluoromethyl, pentafluoroethyl, heptafluoropropyl or perfluorobutyl,

R^{103} and R^{104} are each, independently of one another, methyl, ethyl, propyl, butyl, cyanoethyl, chloroethyl, methoxyethyl, benzyl, phenethyl or phenyl or

$NR^{103}R^{104}$ is pyrrolidino, piperidino or morpholino,

R^{105} is hydrogen and

M is Pd, Fe, Zn, Cu, Ni or Co,

where the propyl or butyl radicals may also be branched.

8. Metal complexes as claimed in at least one of Claims 1 to 7, characterized in that

R^1 is methyl or ethyl, in particular methyl,

R^2 is methyl or trifluoromethyl, in particular trifluoromethyl,

X is CH_2 or a direct bond,

m and n are each 2 and

M is Zn, Cu, Ni or Co,

or complexes in which, in the formula (LI)

R^{51} is phenyl,

R^{52} is methyl or trifluoromethyl, preferably trifluoromethyl,

R^{53} and R^{54} are each, independently of one another, methyl, ethyl, cyanoethyl or benzyl or

$NR^{53}R^{54}$ is pyrrolidino or piperidino,

R^{55} is hydrogen and

M is Zn, Cu, Ni or Co,

where the propyl or butyl radicals may also be branched,

or complexes in which, in the formula (CI)

$NR^{106}R^{107}$ is dimethylamino, diethylamino, dipropylamino, N-cyanoethyl-N-methylamino, N-cyanoethyl-N-ethylamino, N,N-dicyanoethylamino, pyrrolidino or piperidino,

R^{102} is methyl or trifluoromethyl, preferably trifluoromethyl,

R^{103} and R^{104} are each, independently of one another, methyl, ethyl, cyanoethyl or benzyl or

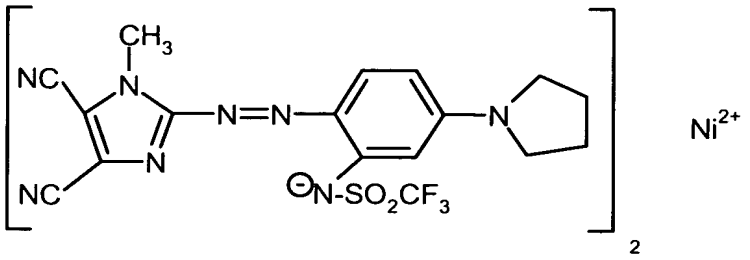
$NR^{103}R^{104}$ is pyrrolidino or piperidino,

R^{105} is hydrogen and

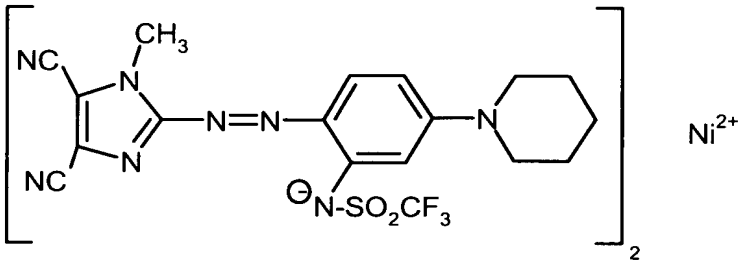
M is Zn, Cu, Ni or Co,

where the propyl or butyl radicals may also be branched.

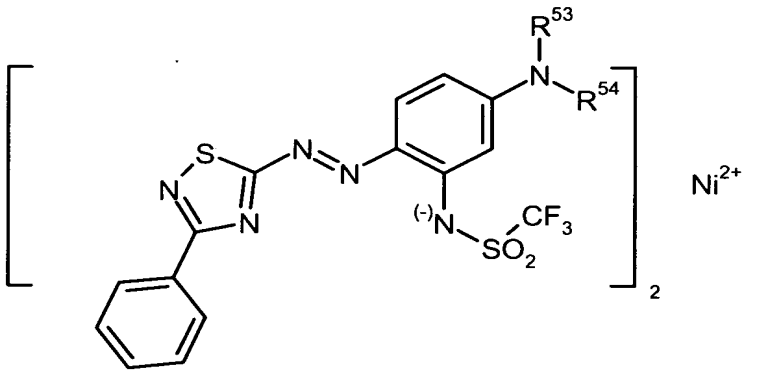
9. Metal complexes according to at least one of Claims 1 to 8, characterized in that they correspond to the formula III or IV or the formula (LIII) or the formula (CIII)



(III)



(IV)



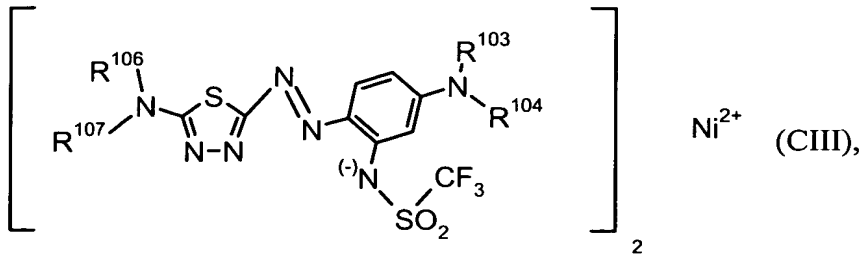
(LIII)

where

R^{53} is methyl or ethyl,

R^{54} is methyl, ethyl or cyanoethyl or

$NR^{53}R^{54}$ is pyrrolidino or piperidino,



(CIII),

where

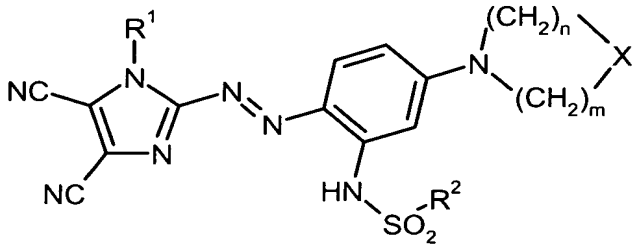
$NR^{106}R^{107}$ is dimethylamino, diisopropylamino or pyrrolidino,

R^{103} is methyl or ethyl,

R^{104} is methyl, ethyl or cyanoethyl or

$NR^{103}R^{104}$ is pyrrolidino or piperidino.

10. Process for preparing metal complexes according to Claim 1, characterized in that a metal salt is reacted with an azo compound of the formula (Ib)



(Ib)

where

R^1 is hydrogen, substituted or unsubstituted C_1-C_6-alkyl or substituted or unsubstituted C_7-C_{12}-aralkyl,

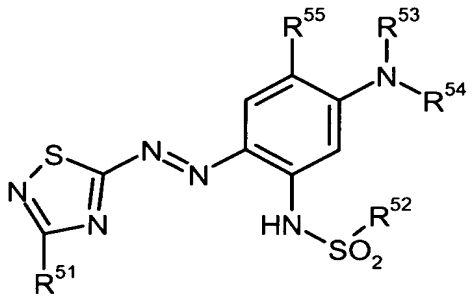
R^2 is substituted or unsubstituted C_1-C_6-alkyl,

X is O, NH, NR^3, CH_2 or a direct bond,

R^3 is substituted or unsubstituted C_1-C_6-alkyl and

m and n are each, independently of one another, 1, 2 or 3,

or with an azo compound of the formula (LIb)



(LIb),

where

R^{51} is substituted or unsubstituted C_6-C_{10}-aryl, in particular phenyl, a substituted or unsubstituted 5- or 6-membered heterocyclic ring, in particular pyridyl, C_1-C_6-alkylthio, C_7-C_{10}-aralkylthio, substituted or unsubstituted C_6-C_{10}-arylthio, in particular phenylthio, C_1-C_6-alkylsulphonyl, C_7-C_{10}-aralkylsulphonyl or substituted or unsubstituted C_6-C_{10}-arylsulphonyl, in particular phenylsulphonyl,

R^{52} is substituted or unsubstituted C_1-C_6-alkyl,

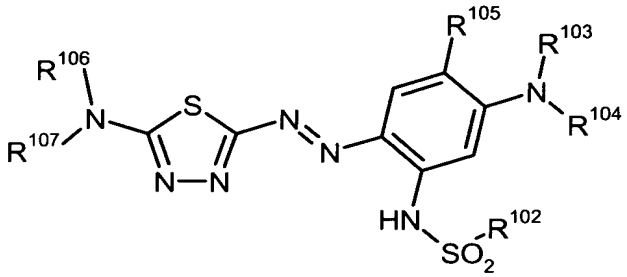
R^{53} and R^{54} are each, independently of one another, substituted or unsubstituted C_1-C_6-alkyl, substituted or unsubstituted C_7-C_{10}-aralkyl or substituted or unsubstituted C_6-C_{10}-aryl or

$NR^{53}R^{54}$ is pyrrolidino, piperidino, morpholino, piperazino or N-C_1-C_6-alkyl-piperidino,

R^{55} is hydrogen, methyl or methoxy or

R^{53};R^{55} together form a -$(CH_2)_2$-, -$(CH_2)_3$- or -$(CH_2)_2$-O- bridge,

or with an azo compound of formula (CIb)



(CIb),

where

R^{102} is substituted or unsubstituted C_1-C_6-alkyl, in particular C_1-C_6-alkyl or perfluoro-C_1-C_6-alkyl,

R^{103}, R^{104}, R^{106} and R^{107} are each, independently of one another, substituted or unsubstituted C_1-C_6-alkyl, substituted or unsubstituted C_7-C_{10}-aralkyl or substituted or unsubstituted C_6-C_{10}-aryl or

$NR^{103}R^{104}$ and $NR^{106}R^{107}$ are each, independently of one another, pyrrolidino, piperidino, morpholino, piperazino or N-C_1-C_6-alkylpiperidino,

R^{105} is hydrogen, methyl or methoxy or

R^{103};R^{105} together form a -$(CH_2)_2$-, -$(CH_2)_3$- or -$(CH_2)_2$-O- bridge.

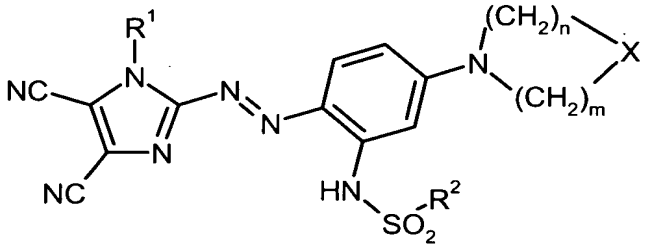
11. Use of metal complexes according to Claim 1 as light-absorbent compounds in the information layer of write-once optical data carriers.

12. Use according to Claim 11, characterized in that the optical data carrier can be written on and read by means of blue laser light, in particular laser light having a wavelength in the range 360-460 nm.

13. Use according to Claim 11, characterized in that the optical data carrier can be written on and read by means of red laser light, in particular laser light having a wavelength in the range 600-700 nm.

14. Use of metal complexes having azo ligands as light-absorbent compounds in the information layer of write-once optical data carriers which can be written on and read by means of blue laser light, in particular laser light having a wavelength in the range 360-460 nm.

15. Azo compounds of the formula (Ib)



(Ib),

where

R^1 is hydrogen, substituted or unsubstituted C_1-C_6-alkyl or substituted or unsubstituted C_7-C_{12}-aralkyl,

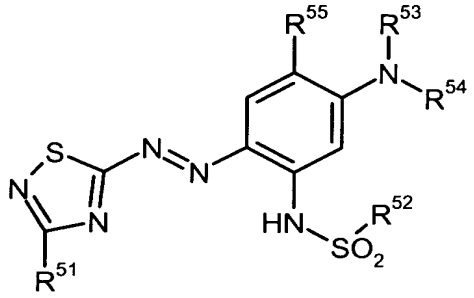
R^2 is substituted or unsubstituted C_1-C_6-alkyl,

X is O, NH, NR^3, CH_2 or a direct bond,

R^3 is substituted or unsubstituted C_1-C_6-alkyl and

m and n are each, independently of one another, 1, 2 or 3,

or azo compounds of the formula (LIb)



(LIb),

where

R^{51} is substituted or unsubstituted C_6-C_{10}-aryl, in particular phenyl, a substituted or unsubstituted 5- or 6-membered heterocyclic ring, in particular pyridyl, C_1-C_6-alkylthio, C_7-C_{10}-aralkylthio, substituted or unsubstituted C_6-C_{10}-arylthio, in particular phenylthio, C_1-C_6-alkyl-sulphonyl, C_7-C_{10}-aralkylsulphonyl or substituted or unsubstituted C_6-C_{10}-arylsulphonyl, in particular phenylsulphonyl,

R^{52} is substituted or unsubstituted C_1-C_6-alkyl, in particular C_1-C_6-alkyl or perfluoro-C_1-C_6-alkyl,

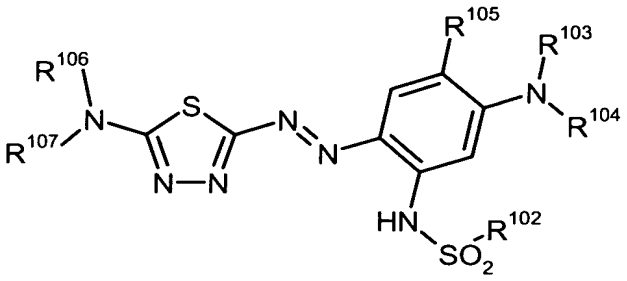
R^{53} and R^{54} are each, independently of one another, substituted or unsubstituted C_1-C_6-alkyl, substituted or unsubstituted C_7-C_{10}-aralkyl or substituted or unsubstituted C_6-C_{10}-aryl or

$NR^{53}R^{54}$ is pyrrolidino, piperidino, morpholino, piperazino or N-C_1-C_6-alkyl-piperidino,

R^{55} is hydrogen, methyl or methoxy or

R^{53};R^{55} together form a -$(CH_2)_2$-, -$(CH_2)_3$- or -$(CH_2)_2$-O- bridge,

or azo compounds of formula (CIb)



(CIb),

where

R^{102} is substituted or unsubstituted C_1-C_6-alkyl, in particular C_1-C_6-alkyl or perfluoro-C_1-C_6-alkyl,

R^{103}, R^{104}, R^{106} and R^{107} are each, independently of one another, substituted or unsubstituted C_1-C_6-alkyl, substituted or unsubstituted C_7-C_{10}-aralkyl or substituted or unsubstituted C_6-C_{10}-aryl or

$NR^{103}R^{104}$ and $NR^{106}R^{107}$ are each, independently of one another, pyrrolidino, piperidino, morpholino, piperazino or N-C_1-C_6-alkylpiperidino,

R^{105} is hydrogen, methyl or methoxy or

R^{103};R^{105} together form a -$(CH_2)_2$-, -$(CH_2)_3$- or -$(CH_2)_2$-O- bridge.

16. Azo compounds according to Claim 15, characterized in that, in the formula (Ib)

R^1 is methyl, ethyl, propyl, butyl, cyanoethyl, methoxyethyl or benzyl,

R^2 is methyl, ethyl, propyl, butyl, difluoromethyl, 3,3-difluoroethyl, 3,3,3-trifluoroethyl, trifluoromethyl, pentafluoroethyl, heptafluoropropyl or perfluorobutyl,

X is O, CH_2 or a direct bond,

m and n are each, independently of one another, 1 or 2,

or in that, in the formula (LIb)

R^{51} is phenyl, pyridyl, methylthio, ethylthio, propylthio, benzylthio, methylsulphonyl, benzylsulphonyl or phenylsulphonyl,

R^{52} is methyl, ethyl, propyl, butyl, difluoromethyl, 3,3-difluoroethyl, 3,3,3-trifluoroethyl, trifluoromethyl, pentafluoroethyl, heptafluoropropyl or perfluorobutyl, preferably difluoromethyl, 3,3-difluoroethyl, 3,3,3-trifluoroethyl, trifluoromethyl, pentafluoroethyl, heptafluoropropyl or perfluorobutyl,

R^{53} and R^{54} are each, independently of one another, methyl, ethyl, propyl, butyl, cyanoethyl, chloroethyl, methoxyethyl, benzyl, phenethyl or phenyl or

$NR^{53}R^{54}$ is pyrrolidino, piperidino or morpholino,

R^{55} is hydrogen,

where the propyl or butyl radicals may also be branched,

or in that, in the formula (CIb)

R^{102} is perfluoro-C_1-C_6-alkyl,

R^{103}, R^{104}, R^{106} and R^{107} are each, independently of one another, substituted or unsubstituted C_1-C_6-alkyl, substituted or unsubstituted C_7-C_{10}-aralkyl or substituted or unsubstituted C_6-C_{10}-aryl or

$NR^{103}R^{104}$ and $NR^{106}R^{107}$ are each, independently of one another, pyrrolidino, piperidino, morpholino, piperazino or N-C_1-C_6-alkylpiperidino,

R^{105} is hydrogen, methyl or methoxy or

R^{103};R^{105} together form a -$(CH_2)_2$-, -$(CH_2)_3$- or -$(CH_2)_2$-O- bridge.

17. Azo compounds according to Claim 15 or 16, characterized in that, in the formula (Ib)

R^1 is methyl or ethyl, in particular methyl,

R^2 is methyl or trifluoromethyl, in particular trifluoromethyl,

X is CH_2 or a direct bond,

m and n are each 2,

or in that, in the formula (LIb)

R^{51} is phenyl,

R^{52} is methyl or trifluoromethyl, preferably trifluoromethyl,

R^{53} and R^{54} are each, independently of one another, methyl, ethyl, cyanoethyl or benzyl or

$NR^{53}R^{54}$ is pyrrolidino or piperidino,

R^{55} is hydrogen,

or in that, in the formula (CIb)

R^{102} is difluoromethyl, 3,3-difluoroethyl, 3,3,3-trifluoroethyl, trifluoromethyl, pentafluoroethyl, heptafluoropropyl or perfluorobutyl,

R^{106} and R^{107} are each, independently of one another, methyl, ethyl, propyl, butyl, cyanoethyl, chloroethyl, methoxyethyl, benzyl, phenethyl or phenyl or

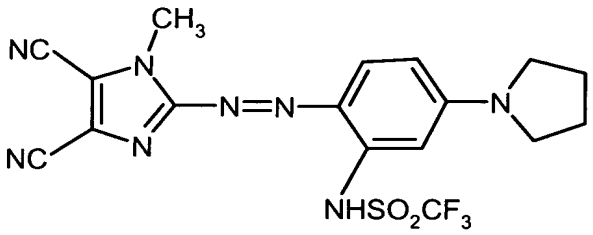
$NR^{106}R^{107}$ is pyrrolidino, piperidino or morpholino,

R^{103} and R^{104} are each, independently of one another, methyl, ethyl, propyl, butyl, cyanoethyl, chloroethyl, methoxyethyl, benzyl, phenethyl or phenyl or

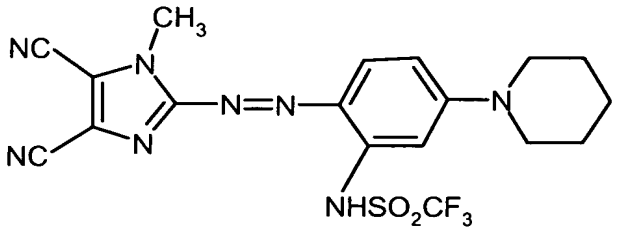
$NR^{103}R^{104}$ is pyrrolidino, piperidino or morpholino,

R^{105} is hydrogen.

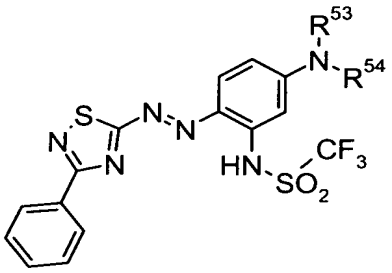
18. Azo compounds according to Claim 15, characterized in that they correspond to the formula V, VI, LV or CV,



(V)



(VI)



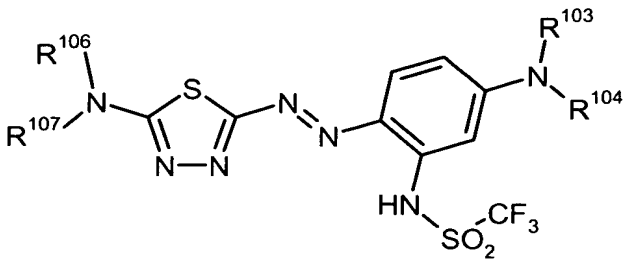
(LV),

where

R^{53} is methyl or ethyl,

R^{54} is methyl, ethyl or cyanoethyl or

$NR^{53}R^{54}$ is pyrrolidino or piperidino,



(CV),

where

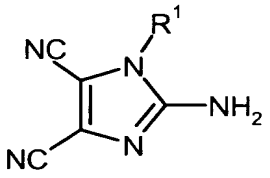
$NR^{106}R^{107}$ is dimethylamino, diisopropylamino or pyrrolidino,

R^{103} is methyl or ethyl,

R^{104} is methyl, ethyl or cyanoethyl or

$NR^{103}R^{104}$ is pyrrolidino or piperidino.

19. Process for preparing azo compounds of the formula (Ib) according to Claim 15, characterized in that an aminoimidazole of the formula (VII)



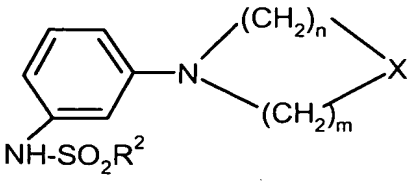
(VII),

where

R^1 is hydrogen, substituted or unsubstituted C_1-C_6-alkyl or substituted or unsubstituted C_7-C_{12}-aralkyl,

is diazotized and

coupled with a coupling component of the formula VIII



(VIII),

where

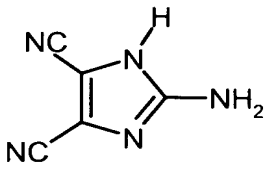
R^2 is substituted or unsubstituted C_1-C_6-alkyl,

X is O, NH, NR^3, CH_2 or a direct bond,

R^3 is substituted or unsubstituted C_1-C_6-alkyl and

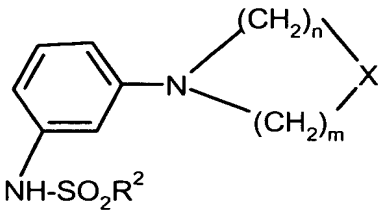
m and n are each, independently of one another, 1, 2 or 3.

20. Process for preparing azo compounds of the formula (Ib) according to Claim 15, characterized in that an aminoimidazole of the formula (IX)



(IX)

is diazotized, coupled with a coupling component of the formula VIII



(VIII),

where

R^2 is substituted or unsubstituted C_1-C_6-alkyl,

X is O, NH, NR^3, CH_2 or a direct bond,

R^3 is substituted or unsubstituted C_1-C_6-alkyl and

m and n are each, independently of one another, 1, 2 or 3,

and subsequently reacted with an alkylating agent of the formula

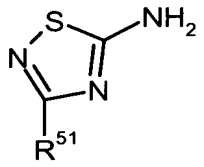
$$R^1—Y \qquad (X),$$

where

R^1 is hydrogen, substituted or unsubstituted C_1-C_6-alkyl or substituted or unsubstituted C_7-C_{12}-aralkyl and

Y is a leaving group.

21. Process for preparing azo compounds of the formula (LIb) according to Claim 15, characterized in that a 5-amino-1,2,4-thiadiazole of the formula (LVII)

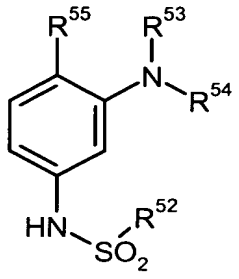


(LVII),

where

R^{51} is substituted or unsubstituted C_6-C_{10}-aryl, in particular phenyl, a substituted or unsubstituted 5- or 6-membered heterocyclic ring, in particular pyridyl, substituted or unsubstituted C_1-C_6-alkylthio, substituted or unsubstituted C_7-C_{10}-aralkylthio or substituted or unsubstituted C_6-C_{10}-arylthio or phenylthio,

is diazotized or nitrosated and coupled with a coupling component of the formula LVIII



(LVIII),

where

R^{52} is substituted or unsubstituted C_1-C_6-alkyl,

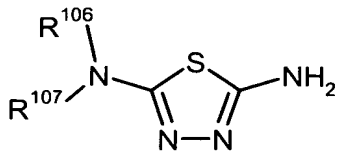
R^{53} and R^{54} are each, independently of one another, substituted or unsubstituted C_1-C_6-alkyl, substituted or unsubstituted C_7-C_{10}-aralkyl or substituted or unsubstituted C_6-C_{10}-aryl or

$NR^{53}R^{54}$ is pyrrolidino, piperidino, morpholino, piperazino or N-C_1-C_6-alkyl-piperidino,

R^{55} is hydrogen, methyl or methoxy or

R^{53}; R^{55} together form a -$(CH_2)_2$-, -$(CH_2)_3$- or -$(CH_2)_2$-O- bridge.

22. Process for preparing azo compounds of the formula (CIb) according to Claim 15, characterized in that a 2-amino-1,3,4-thiadiazole the formula (CVII)



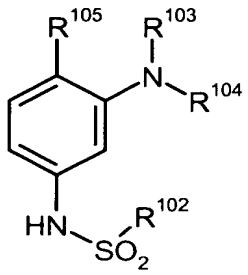
(CVII),

where

R^{106} and R^{107} are each, independently of one another, substituted or unsubstituted C_1-C_6-alkyl, substituted or unsubstituted C_7-C_{10}-aralkyl or substituted or unsubstituted C_6-C_{10}-aryl or

$NR^{106}R^{107}$ is pyrrolidino, piperidino, morpholino, piperazino or N-C_1-C_6-alkyl-piperidino,

is diazotized and coupled with a coupling component of the formula LVIII



(LVIII),

where

R^{102} is substituted or unsubstituted C_1-C_6-alkyl,

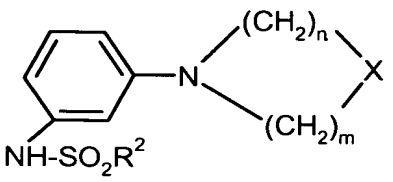
R^{103} and R^{104} are each, independently of one another, substituted or unsubstituted C_1-C_6-alkyl, substituted or unsubstituted C_7-C_{10}-aralkyl or substituted or unsubstituted C_6-C_{10}-aryl or

$NR^{103}R^{104}$ is pyrrolidino, piperidino, morpholino, piperazino or N-C_1-C_6-alkyl-piperidino,

R^{105} is hydrogen, methyl or methoxy or

R^{103}; R^{105} together form a $-(CH_2)_2-$, $-(CH_2)_3-$ or $-(CH_2)_2-O-$ bridge.

23. Compounds of the formula VIII



(VIII),

where

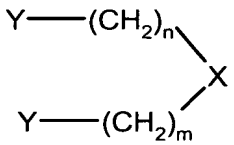
R^2 is substituted or unsubstituted C_1-C_6-alkyl,

X is O, NH, NR^3, CH_2 or a direct bond,

R^3 is substituted or unsubstituted C_1-C_6-alkyl and

m and n are each, independently of one another, 1, 2 or 3.

24. Process for preparing compounds of the formula VIII according to Claim 23, characterized in that 3-nitroaniline is reacted with a bifunctional alkylating agent of the formula



(XI),

where

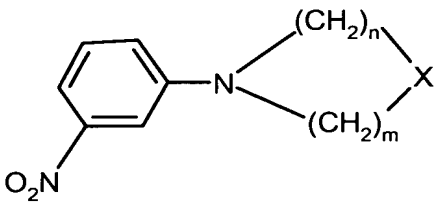
X is O, NH, NR^3, CH_2 or a direct bond,

R^3 is substituted or unsubstituted C_1-C_6-alkyl,

Y is a leaving group and

n and m are each, independently of one another, 1, 2 or 3,

to form a nitro compound of the formula



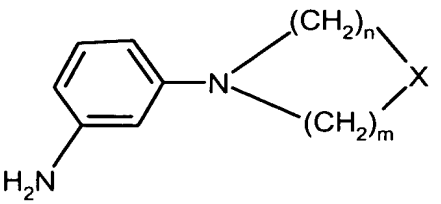
(XII),

where

X is O, NH, NR^3, CH_2 or a direct bond and

n and m are each, independently of one another, 1, 2 or 3,

the nitro compound of the formula (XII) is hydrogenated to form the amino compound of the formula



(XIII),

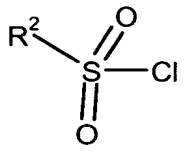
where

X is as defined above and

n and m are each, independently of one another, 1, 2 or 3,

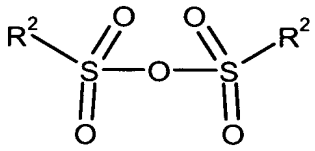
and the amino compound of the formula (XIII) is reacted with

an acid chloride or anhydride of the formula



(XIV)

or



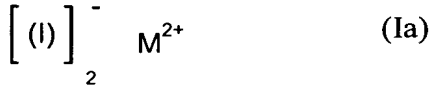
(XV),

where

R^2 is substituted or unsubstituted C_1-C_6-alkyl.

25. Optical data carrier comprising a preferably transparent substrate which may, if desired, have previously been coated with one or more reflection layers and to whose surface a light-writable information layer, if desired one or more reflection layers and if desired a protective layer or a further substrate or a covering layer have been applied, which can be written on or read by means of blue or red light, preferably laser light, where the information layer comprises a light-absorbent compound and, if desired, a binder, characterized in that at least one metal complex according to at least one of Claims 1 to 9 is used as light-absorbent compound.

26. Optical data carrier according to Claim 25, characterized in that the light-absorbent compound has the formula (Ia)



(Ia)

where the formula I is as defined in Claim 1 and M is a metal, or has the formula (LIa)

$$\left[(LI)\right]^{-}_{2} \quad M^{2+} \qquad \text{(LIa)}$$

where the two ligands of the formula (LIa) are each, independently of one another, as defined in Claim 1 and

M is a metal,

or has the formula (CIa)

$$\left[(CI)\right]^{-}_{2} \quad M^{2+} \qquad \text{(CIa)}$$

where the two ligands of the formula (CI) are each, independently of one another, as defined in Claim 1 and

M is a metal.

27. Optical data carrier according to Claim 26, characterized in that the metal M is a divalent metal, transition metal or rare earth, in particular Mg, Ca, Sr, Ba, Cu, Ni, Co, Fe, Zn, Pd, Pt, Ru, Rh, Os or Sm.

28. Optical data carrier according to one or more of Claims 25 to 27, characterized in that a metal complex having an azo ligand of the formula I in which

R^1 is methyl, ethyl, propyl, butyl, cyanoethyl, methoxyethyl or benzyl,

R^2 is methyl, ethyl, propyl, butyl, difluoromethyl, 3,3-difluoroethyl, 3,3,3-trifluoroethyl, trifluoromethyl, pentafluoroethyl, heptafluoropropyl or perfluorobutyl,

X is O, CH_2 or a direct bond,

m and n are each, independently of one another, 1 or 2 and

M is Pd, Fe, Zn, Cu, Ni or Co,

or has an azo ligand of the formula (LI) in which

R^{51} is phenyl, pyridyl, methylthio, ethylthio, propylthio, benzylthio, methylsulphonyl, benzylsulphonyl or phenylsulphonyl,

R^{52} is methyl, ethyl, propyl, butyl, difluoromethyl, 3,3-difluoroethyl, 3,3,3-trifluoroethyl, trifluoromethyl, pentafluoroethyl, heptafluoropropyl or perfluorobutyl,

R^{53} and R^{54} are each, independently of one another, methyl, ethyl, propyl, butyl, cyanoethyl, chloroethyl, methoxyethyl, benzyl, phenethyl or phenyl or

$NR^{53}R^{54}$ is pyrrolidino, piperidino or morpholino,

R^{55} is hydrogen and

M is Pd, Fe, Zn, Cu, Ni or Co,

where the propyl or butyl radicals may also be branched,

or has an azo ligand of the formula (CI) in which

R^{106} and R^{107} are each, independently of one another, methyl, ethyl, propyl, butyl, cyanoethyl, chloroethyl, methoxyethyl, benzyl, phenethyl or phenyl or

$NR^{106}R^{107}$ is pyrrolidino, piperidino or morpholino,

R^{102} is methyl, ethyl, propyl, butyl, difluoromethyl, 3,3-difluoroethyl, 3,3,3-trifluoroethyl, trifluoromethyl, pentafluoroethyl, heptafluoropropyl or perfluorobutyl,

R^{103} and R^{104} are each, independently of one another, methyl, ethyl, propyl, butyl, cyanoethyl, chloroethyl, methoxyethyl, benzyl, phenethyl or phenyl or

$NR^{103}R^{104}$ is pyrrolidino, piperidino or morpholino,

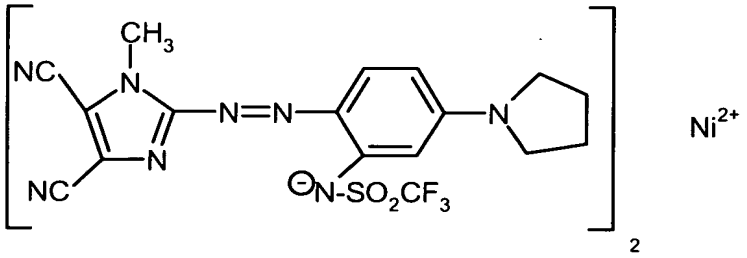
R^{105} is hydrogen and

M is Pd, Fe, Zn, Cu, Ni or Co,

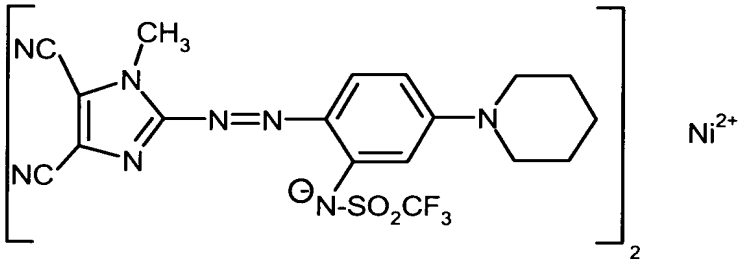
where the propyl or butyl radicals may also be branched,

is used as light-absorbent compound.

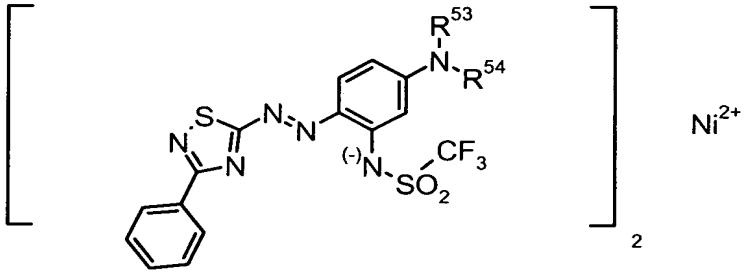
29. Optical data carrier according to one or more of Claims 25 to 28, characterized in that the metal complex has the formula III, IV, LIII or CIII



(III)



(IV)



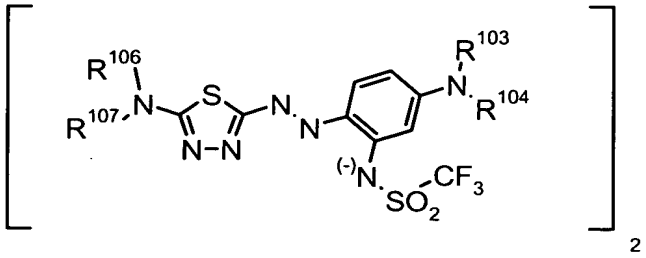
(LIII)

where

R^{53} is methyl or ethyl,

R^{54} is methyl, ethyl or cyanoethyl or

$NR^{53}R^{54}$ is pyrrolidino or piperidino,



Ni^{2+} (CIII),

where

$NR^{106}R^{107}$ is dimethylamino, diisopropylamino or pyrrolidino,

R^{103} is methyl or ethyl,

R^{104} is methyl, ethyl or cyanoethyl or

$NR^{103}R^{104}$ is pyrrolidino or piperidino.

30. Process for producing an optical data carrier according to Claim 25, which is characterized in that a preferably transparent substrate which may, if desired, have previously been coated with a reflection layer is coated with metal complexes according to Claim 1, if desired in combination with suitable binders and additives and, if desired, suitable solvents, and is, if desired, provided with a reflection layer, further intermediate layers and if desired a protective layer or a further substrate or a covering layer.

31. Optical data carrier according to Claim 25 which has been written on by means of blue or red light, in particular red light, in particular red laser light.